

Appendix H

Forms

Introduction

Included in this appendix are the standard forms you will use to keep a record of the activities comprising the PHM biological control program. For guidance in using the forms, refer to the appropriate section of the manual.

The following pages have been printed without headers, footers, or page numbers so that you can reproduce the forms locally as needed.



To make sure that you maintain a complete set of blank master forms, **copy** the forms as you need them and leave the originals in your binder!

The following is a list of included forms:

- ◆ Form PHM-1: Mealybug Survey: Visual—Collection of Adult Females and Various Instars
- **◆ Form PHM-2**: Mealybug Survey: Sex Pheromone Trap—Adult Males
- **◆ Form PHM-3**: Japanese Pumpkin Harvest Records
- ◆ **Form PHM-4**: Pink Hibiscus Mealybug Insectary Culture: Daily Operation
- **◆ Form PHM-5**: Host Infestation Records
- **◆ Form PHM-6**: Natural Enemy Foreign Shipment Receiver's Report
- **◆ Form PHM-7**: Laboratory Temperature and Relative Humidity Daily Records
- **♦ Form PHM-8**: Parasite/Predator Production Records/Cage
- ◆ Form PHM-9: Summary of Parasite/Predator Production Records/ Cage
- **◆ Form PHM-10**: Summary of Monthly Parasite/Predator Production Records/Species
- **◆ Form PHM-11**: Parasite Release Data
- **◆ Form PHM-12**: Summary of Monthly Parasite/Predator Releases on Pink Hibiscus Mealybug
- ◆ Form PHM-13: Predator Release Data: Cryptolaemus montrouzieri

- ◆ Form PHM-14 (Part 1) and Form PHM-14 (Part 2): Percent Parasitization Data
- **◆ Form PHM-15**: Summary: Percent Parasitization of Pink Hibiscus Mealybug
- ◆ Form PHM-16 (Part 1): Percent Hyper-parasitization Data
- **◆ Form PHM-17**: Beat-Sheet Field Samples: *Cryptolaemus montrouzieri*
- **◆ Form PHM-18**: Pink Hibiscus Mealybug: Population Density Count Data
- **◆ Form PHM-19**: Summary of Pink Hibiscus Mealybug Population Density Counts

Mealybug Survey Visual—Collection of Adult Females and Various Instars

Date	Location	Host Plant	Collector's Name	Tentative Identification (species)	Positive Identification (species)

Form PHM-1 7/98

Mealybug Survey Sex Pheromone Trap—Adult Males

Date Trap Placed in Field	Date Trap Removed from Field	Location	Host Plant	Collector's Name	Number of Males

Form PHM-2 7/98

Japanese Pumpkin Harvest Records

Date Planted	Location	No. of Plants Seeded/ Transplanted	Date Harvested	Total No. Harvested	Total Weight (optional)
			Total		

Form PHM-3 7/98

Pink Hibiscus Mealybug Insectary Culture Daily Operation

	Vol./Weight	Number of Host Plants Infested			
Date	Crawlers Collected	Potatoes	Japanese Pumpkin	Local Squash	(species) Total Host Units

Form PHM-4 7/98

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) ☐ Pumpkin ☐ Potato ☐ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) □ Pumpkin □ Potato □ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

HOST INFESTATION RECORDS Host (Check) ☐ Pumpkin ☐ Potato ☐ Squash

Event	Date
Host infested with crawlers (or eggs)	
Host removed for crawler or parasite/ predator production	

Form PHM-5 7/98

Natural Enemy Foreign Shipment Receiver's Report

Date received	Condition of shipment
	<u> </u>
Examined by	Source of material (name)
Source location	

Vial or		Entomonhagous	Number Received Total Emergence			nergence		
Packet #	Host Insect	Entomophagous Species	Alive	Dead	Female	Male	Propagated	Consignment

Form PHM-6 7-98

Laboratory Temperature and Relative Humidity Daily Records

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пи	<i>, ,</i> , , , , , , , , , , , , , , , , ,		

			Relative		
Date	Time	Current	Minimum	Maximum	Humidity

Form PHM-7 7/98

Parasite/Predator Production Records/Cage

Species:	
Cage #:	
Origin:	
Date of S	ing:
Number R	eleased in Sting:
Host Mat	erial and Number:

Parasite/Predator Production Records/Cage

Species:	
Cage #:	
Origin:	
Date of S	ting:
	eleased in Sting:
	orial and Number:

Date Progeny Collected	Number of Progeny Collected
Total	

Date Progeny Collected	Number of Progeny Collected
Total	

Form PHM-8 7/98

Summary of Parasite/Predator Production Records/Cage

			No.		No. of Ho				
Sting Date	Cage Unit No.	Parasite/ Predator Species	Parasite/ Predator per Sting	Potatoes	Pumpkins	Local Squash	Hibiscus (stems)	No. Parasites Collected	Range of Dates Collected
		Total							

Form PHM-9 7/98

Summary of Monthly Parasite/Predator Production Records/Species

Species:	Origin:	Month:
<u></u>	origin.	WOITH.

Date of Sting	Cage #	Number Released in Sting	Host Material	Total Number of Progeny Collected	Date Range of Emergence
January 3		3			

Form PHM-10 7/98

Parasite Release Data

Anagyrus kamali #1 Gyranusoidea indica #2 Leptomastix sp. #3

Date	Species (1, 2, or 3)	Property Owner's Name	Releaser's Initials	Release Address	Host Plant	Number Released
	_					
L			1		Total	

			Total:	
Form PHM-11				7/98

Summary of Monthly Parasite/Predator Releases on Pink Hibiscus Mealybug

Country	
Month	Year

Biocontrol Agent	Dates Released	Total Number of Properties	Total Number Released
Anagyrus kamali (China)			
Anagyrus kamali (Hawaii)			
Gyranusoidea indica (Egypt)			
Leptomastix sp.			
Anagyrus dactylopli (China)			
Cryptolaemus montrouzieri			
·	Total		

Form PHM-12 7/98

Predator Release Data

Cryptolaemus montrouzieri

Date	Property Owner's Name	Releaser's Initials	Release Address	Host Plant	Number Released
				Total:	

Form PHM-13	7/	98

Total:

Percent Parasitization Data (Encapsulated Live 2nd, 3rd, and Adult Female Mealybugs)

Site No:	Location:
Date Collected:	Date Released:

Сар		Unemerged	Eme	nber erged esites	Сар		Unemerged	Eme	Number Emerged Parasites	
No.	Species	Mummy	우	♂	No.	Species	Mummy	우	♂	
1					26					
2					27					
3					28					
4					29					
5					30					
6					31					
7					32					
8					33					
9					34					
10					35					
11					36					
12					37					
13					38					
14					39					
15					40					
16					41					
17					42					
18					43					
19					44					
20					45					
21					46					
22					47					
23					48					
24					49					
25					50					

Form PHM-14 (Part 1) 7/98

Percent Parasitization Data (continued)

Site No:	Location:
Date Collected:	Date Released:
Date Collected.	Date Released.

Сар		Unemerged	Eme	Number Emerged Parasites			Unemerged	Number Emerged Parasites	
No.	o. Species Mummy φ σ^{\intercal}	Cap No.	Species	Mummy	우	o₹			
51					76				
52					77				
53					78				
54					79				
55					80				
56					81				
57					82				
58					83				
59					84				
60					85				
61					86				
62					87				
63					88				
64					89				
65					90				
66					91				
67					92				
68					93				
69					94				
70					95				
71					96				
72					97				
73					98				
74					99				
75					100				
				Tot	tal				

Summary Percent Parasitization of Pink Hibiscus Mealybug *Anagyrus kamali #1**

Gyranusoidea indica #2 Leptomastix sp #3

				P			
Location	Date	Number of Mealybugs	Number Parasitized	1	Species 2	3	Percent Parasitization
	2410	ca.j.ca.ge		•	_		
	Total						

Form PHM-15 7/98

Percent Hyper-Parasitization Data (Encapsulated Mealybug Mummies Only)

Site No:	Location:
Date Collected:	Date Released:

Сар	Number Emerged Parasites		rged	Сар		Unemerged	Eme	Number Emerged Parasites	
No.	Species	Mummy	우	♂	No.	Species	Mummy	우	♂*
1					26				
2					27				
3					28				
4					29				
5					30				
6					31				
7					32				
8					33				
9					34				
10					35				
11					36				
12					37				
13					38				
14					39				
15					40				
16					41				
17					42				
18					43				
19					44				
20					45				
21					46				
22					47				
23					48				
24					49				
25					50				

Form PHM-16 (Part 1) 7/98

Percent Hyper-Parasitization Data (continued)

Site No:	Location:
Date Collected:	Date Released:

Сар		Unemerged	Eme	nber erged esites	Сар		Unemerged	Eme	nber erged isites
No.	Species	Mummy	우	♂	No.	Species	Mummy	우	♂*
51					76				
52					77				
53					78				
54					79				
55					80				
56					81				
57					82				
58					83				
59					84				
60					85				
61					86				
62					87				
63					88				
64					89				
65					90				
66					91				
67					92				
68					93				
69					94				
70					95				
71					96				
72					97				
73					98				
74					99				
75					100				
				Total					

Beat-Sheet Field Samples

Cryptolaemus montrouzieri Collector's Name:

Host Plant:

	No. 4	Larva Adult Total Average											
	No. 3	Adult Total											
Sample Number		Larva											
Samp	. 2	Adult Total											
	No. 2	Larva Ad		-	-	-	-						
		Total											
	No. 1	Adult											ļ
		Larva											
		Location											
		Date											

Form PHM-17

Beat-Sheet Field Samples

1/98

Cryptolaemus montrouzieri

Pink Hibiscus Mealybug—Population Density Count Data (6" Hibiscus Terminals)

						ا ا	DISCUS	(o implacta lellillidia)	ılalə)					
		Twig	Egg	Egg Mass			#	#		Total #	Cryptolaemus	laemus	No. Mummies	nmies
Location	Date	Sample No (1-4)	Eggs	Eggs + Crawlers	# 2nds	# 3rds	Adult ♀	Adult	Total # Egg Mass	2nd to Adult	Larvae	Adults	Exit Holes	No Exit Holes
		~												
		2												
		3												
		4												
Total		A												
		\												
Average		A												
		~												
		2												
		3												
		4												
Total		A												
Average		A												
		-												
		2												
		3												
		4												
Total		•												
		١												
Average		A												

Form PHM-18

1/98

Summary of Pink Hibiscus Mealybug Population Density Counts

Host Plant:	Location:

			Egg :	Sacs		2nd to	Adult	Crypt. No. Adult	No. Mu	mmies
Date	Location	Eggs	Crawlers	Total	Avg.	Total	Avg.	+ Larva	Exit Hole	No Exit Hole

Form PHM-19 7/98